

## Product Information

### D-Arg<sub>9</sub> (r<sub>9</sub>)

For Research Purposes only. Not for use in Humans



<b>Product</b>	BAP-302
<b>Sequence</b>	rrrrrrrrr D-Arg-D-Arg-D-Arg-D-Arg-D-Arg-D-Arg-D-Arg-D-Arg
<b>Synonyms</b>	Nona-D-arginine, (D-Arg) <sub>9</sub> , D9R
<b>CAS</b>	Not available
<b>MW / Formula</b>	1423.7 / C <sub>54</sub> H <sub>110</sub> N <sub>36</sub> O <sub>10</sub>
<b>Description</b>	<p>Cell penetrating peptides (CPPs) are characterised by their ability to promote the receptor-independent cellular uptake of membrane-impermeable macromolecules, such as peptides, proteins, nucleic acids and nanoparticles. CPPs are usually short peptides with less than 30 amino acids. They are mostly amphipathic and highly cationic and usually rich of amino acids arginine and lysine. According to numerous publications, Arg<sub>9</sub> and Arg<sub>9</sub>-amide (BAP-301 and BAP-301a) are able to enter cells very efficiently and allow cell membrane transduction of various cargo molecules. D-Arg<sub>9</sub> consists of D-amino acids instead of L-amino acids in Arg<sub>9</sub> which is described to lead to a more protease resistance. Compared to Arg<sub>9</sub>, D-Arg<sub>9</sub> has the same amino acid sequence but consists of D-amino acids. The altered stereo-chemistry of peptides containing D-amino acids renders D-CPPs much more protease resistant than their L-amino acid counterparts.</p>
<b>Packaging Reconstitution Storage</b>	<p>The peptide amide is provided as a lyophilised, colourless powder without any additives. It can be shipped at ambient temperature and should be stored at -20°C.</p> <p>D-Arg<sub>9</sub> can be reconstituted in water. Through the use of a vortex mixer, homogeniser or sonicator, a homogenous solution can be prepared. If you use an ultrasonic bath, take care of the vial labels.</p> <p>After reconstitution, the solution should be aliquoted and stored at or below -20°C. Repeated thawing and freezing should be avoided.</p>
<b>Handling</b>	<p>Caution, not fully tested. Good laboratory technique should be employed in the safe handling of any peptide product. If you are not fully trained or are unaware of the hazards involved, do not use this compound!</p> <p>Caution: Do not take internally! Avoid contact by all modes of exposure. Wear appropriate laboratory attire including a lab coat, gloves, mask and safety glasses. Do not mouth pipette, inhale, ingest or allow coming into contact with open wounds. Wash thoroughly any area of the body which comes into contact with the product. Avoid accidental autoinoculation by exercising extreme care when handling in conjunction with any injection device.</p> <p>This product is intended for research purposes by qualified personnel only. It is not intended for use in humans or as a diagnostic agent. EMC microcollections GmbH is not liable for any damages resulting from misuse or handling of this product.</p>
<b>References</b>	<p>W.P.R. Verdurmen and R. Brock (2011) Biological responses towards cationic peptides and drug carriers, <i>Trends Pharmacol. Sci.</i> 32, 116-124.</p> <p>W.P.R. Verdurmen, P. H. Bovee-Geurts, P. Wadhvani, A.S. Ulrich, M. Hällbrink, T.H. van Kuppevelt, R. Brock- (2011) Preferential Uptake of L- versus D-Amino Acid Cell-Penetrating Peptides in a Cell Type-Dependent Manner. <i>Chem Biol.</i> 26;18(8):1000-1010. doi: 10.1016/j.chembiol.2011.06.006.</p> <p>A. Lamazière, F. Burlina, C. Wolf, G. Chassaing, G. Trugnan, et al (2007) Non-Metabolic Membrane Tubulation and Permeability Induced by Bioactive Peptides. <i>PLoS ONE</i> 2(2): e201. doi:10.1371/journal.pone.0000201</p> <p>M. Fotin-Mleczek, S. Welte, O. Mader, F. Duchardt, R. Fischer, H. Hufnagel, P. Scheurich, and R. Brock (2005) Cationic cell-penetrating peptides interfere with TNF signalling by induction of TNF receptor internalization. <i>J Cell Sci.</i> 118, 3339-3351.</p> <p>D.J. Mitchell, D.T. Kim, L. Steinman, C.G. Fathman, and J.B. Rothbard (2000). Polyarginine enters cells more efficiently than other polycationic homopolymers. <i>J. Peptide Sci.</i> 56, 318-325.</p>